IN THE CLAIMS:

Please amend the claim as follows:

1-6. (Canceled)

7. (Currently Amended) An optical transmission apparatus comprising:

a light source that generates light having a continuous wave;

an optical intensity modulator that converts the light having continuous wave into an optical intensity signal based upon an input electric signal;

a differential encoder that encodes the input electric signal;

a duobinary filter that converts the encoded 2-level electric signal into a 3-level electric signal; and

a polarization-shaped modulator that polarization-modulates the ~~signal modulated an~~ optical intensity signal by using the electric signal converted by a 3-level.

8. (Original) An optical transmission apparatus as claimed in claim 7, further comprising at least two operation amplifiers that drive the optical intensity modulator and the duobinary filter, respectively.

9. (Original) An optical transmission apparatus as claimed in claim 7, wherein the optical intensity modulator comprises a single-armed X-cut interferometer type optical intensity modulator.

10. (Original) An optical transmission apparatus as claimed in claim 7, wherein the optical intensity modulator comprises a dual-armed Z-cut interferometer type optical intensity modulator.

11. (Original) An optical transmission apparatus as claimed in claim 7, wherein the differential encoder comprises:

a power splitter that splits a power level of the input electric signal;

a delay element which delays one of the split power signals by predetermined bits; and

a power combiner that synthesizes the split power signals.

12. (Original) An optical transmission apparatus as claimed in claim 7, wherein the duobinary filter comprises a low pass filter having a bandwidth corresponding to about 1/4 of a data transmission speed.

13. (Original) An transmission apparatus as claimed in claim 12, wherein the duobinary optical signal has a transmission characteristic that can be adjusted by regulating the bandwidth of the low pass filter.

14. (Original) An optical transmission apparatus as claimed in claim 7, wherein the light source comprises a semiconductor laser.

15. (Original) An optical transmission apparatus comprising:

a differential encoder that encodes an input electric signal;

a duobinary filter that converts the encoded 2-level electric signal into a 3-level signal;

a light source that generates light having a continuous wave;

a polarizer that adjusts a polarization of the light from the light source;

a Mach-Zehnder modulator that receives first and second separated light input from the polarizer, the Mach-Zehnder modulator including an upper arm and a lower arm, the upper arm modulating a polarization of the first separated light based upon the 3-level duobinary signal input from the duobinary filter, the lower arm adjusting a phase of the second separated light; and

a faraday rotator that matches a polarization axis of the light input to the lower arm of the Mach-Zehnder modulator with an electro-optic effect axis of the Mach-Zehnder modulator.

16. (Original) An optical transmission apparatus as claimed in claim 15, further comprising an operation amplifier that drives the duobinary filter.

17. (Original) An optical transmission apparatus as claimed in claim 15, wherein the polarizer is slanted about 45 degrees with respect to an electro-optic effect axis of the Mach-Zehnder modulator.

18. (Original) An optical transmission apparatus as claimed in claim 15, wherein the differential encoder comprises:

a power splitter that splits a power level of the input electric signal;

a delay element that delays one of the split power signals by a predetermined number of bits; and

a power combiner that synthesizes the split power signals.

19. (Original) An optical transmission apparatus as claimed in claim 15, wherein the duobinary filter comprises a low pass filter having a bandwidth smaller than that of the input electric signal